

REMARKS

This application contains claims 1, 4-27 and 30-50. Claims 1 and 27 are hereby amended. No new matter has been introduced. Reconsideration is respectfully requested.

Applicant thanks Examiner Yao for the courtesy of a personal interview with Applicant's representative, Daniel Kligler (Reg. No. 41,120), held in the USPTO on September 26. At this interview, the differences between the present invention and the cited art (Gaddis) were discussed. It was agreed that adding the limitation to the independent claims that the fragments of a data frame are reassembled in host memory in fragment order before processing of the reassembled data frame by the host processor would distinguish the present invention over the cited art. Applicant has amended independent claims 1 and 27 accordingly.

Claims 1, 5, 11, 12, 21-27, 31, 37, 38 and 47-50 were rejected under 35 U.S.C. 102(b) over Gaddis et al. (U.S. Patent 5,815,501). Applicant has amended independent claims 1 and 27, as agreed in the interview, in order to clarify the distinction of the present invention over the cited art.

Gaddis describes an ATM-Ethernet portal and concentrator, which is said to permit transparent interconnection between Ethernet segments over an ATM network (abstract). An Ethernet frame is segmented into a contiguous sequence of ATM cells for transmission over an ATM network (col. 7, lines 39-45). At the receiving portal, an ATM cell processor places arriving cells in a shared memory in the order in which the cells arrive, regardless of whether the cells arrive in the original order or out of order. The general case in which cells do not arrive in order (see col. 10, lines 46-50) is shown by Gaddis in Fig. 10. In this case, for example, CELL 2 of FRAME 1 is written to the memory before CELL 1 of FRAME 1. An Ethernet controller must reassemble the frame in the proper order from the non-contiguous locations of the segments based on a transmit buffer descriptor list that it receives from the control microprocessor in the portal (col. 10, lines 35-40).

Claim 1, as amended, recites a network interface device, which receives a sequence of data packets from a network. A protocol processor processes the headers of the packets in order to identify a group of packets that contain fragments of a data frame. The fragments have a fragment order, which may be different from the sequence in which the data packets were received. The protocol processor controls host

interface logic, however, so that the logic allocates space for the data frame in host memory and reassembles the fragments in the allocated memory space in the fragment order, regardless of whether the packet sequence coincides with the fragment order.

The reassembly of the data frame by the network interface device, in the fragment order, is completed before processing of the reassembled data frame by the host processor. This approach is advantageous in that it enables the host processor to access the frame payload data immediately when the entire frame has been received, without the processing burden of frame reassembly (see page 5, lines 2-11, in the present patent application). By contrast, Gaddis neither teaches nor suggests that his ATM cell processor might reassemble the segments of an Ethernet frame in memory according to the segment order when the segment order differs from the cell arrival sequence. Rather, Gaddis relies on the Ethernet controller to read out and reassemble the segments in the proper order only after the cell processor has written the segments to memory out of order. Therefore, as agreed in the interview, Gaddis cannot be taken to anticipate the device of claim 1, which performs fragment-order reassembly in memory before the host processor processes the data.

Thus, claim 1 as amended is believed to be patentable over Gaddis. In view of the patentability of claim 1, dependent claims 5, 11, 12 and 21-26 are believed to be patentable, as well.

Independent claim 27 recites a method for interfacing a host processor to a network, which operates on principles similar to the device of claim 1 and has been amended in like fashion. Claim 27 is therefore believed to be patentable for the reasons stated above. In view of the patentability of claim 27, dependent claims 31, 37, 38 and 47-50 are also believed to be patentable.

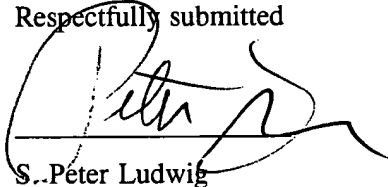
Claims 4, 6-10, 13-20, 30, 32-36 and 39-46 were rejected under 35 U.S.C. 103(a) over Gaddis in combination with one or more of Cowger et al. (U.S. Patent 6,314,477), Sandorfi et al. (U.S. Patent 5,590,122), Unekawa (U.S. Patent 5,706,425), Munger et al. (U.S. Patent 6,502,135), Ding (U.S. Patent 5,699,361) and Derango et al. (U.S. Patent 6,137,796). These claims all depend, directly or indirectly, from one of independent claims 1 and 27. In view of the patentability of the amended independent claims, as explained above, dependent claims 4, 6-10, 13-20, 30, 32-36 and 39-46 are also believed to be patentable.

Applicant believes the amendments and remarks presented hereinabove to be fully responsive to all of the grounds of rejection raised by the Examiner. In view of

these amendments and remarks, Applicant respectfully submits that all of the claims in the present application are in order for allowance. Notice to this effect is hereby requested.

Date: October 11, 2005

Respectfully submitted

A handwritten signature in black ink, appearing to read 'Peter Ludwig', written over a horizontal line.

S. Peter Ludwig

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